



Energy Efficiency Policy

An informational webinar for Maryland's Smart Energy Communities

May 9, 2013 at 10 am

Hosted by the University of Maryland Environmental Finance Center and the Maryland Energy Administration

Outline

- ▣ Review Goals and Deliverables
- ▣ Baseline Development
- ▣ Policy Structure
- ▣ Energy Reduction Plans
- ▣ Procurement, Implementation, and Financing

Energy Efficiency Goal

Reduce per-square foot electricity consumption of government buildings by 15 percent within 5 years.

E.g. Baseline: CY 2012 = 100 kWh/gsf

Target: CY 2017 = 85 kWh/gsf

Three Deliverables

DUE BY DECEMBER 31, 2013

- Select baseline year and calculate electricity consumption.
- Pass a policy committing the local government to energy efficiency goal.
- Develop an Energy Reduction Plan (ERP) to document plans for meeting the energy efficiency goal.

Baseline development

- ▣ What buildings/facilities to include
- ▣ How to select a baseline year
- ▣ Process for documenting baseline

Baseline – What to include?

- ▣ Baseline should include all divisions and departments of the local government:
 - ▣ municipal buildings
 - ▣ drinking water
 - ▣ wastewater treatment plants
 - ▣ pumping stations
 - ▣ other facilities owned by the community

Baseline – What to include?

- Optional facilities (please discuss with MEA):
 - Street lights (High electricity per square ft)
 - Mandatory if you want funding for street light project.
 - Parking garages (Low electricity per square ft)
- Working with a subset of buildings (discuss with MEA):
 - The baseline must represent a minimum of 75% of the community's total electricity consumption.

Baseline – Selecting a year

- ▣ Things to consider:
 - ▣ What is your most current year of complete data?
 - ▣ What recent energy efficiency improvements have been made and what are the expected savings?
 - ▣ What new buildings came online in past 5 years?
 - ▣ How many years do you need to meet the reduction goal?
 - ▣ 2009 is the earliest baseline year allowed
 - ▣ Requires community meet goal by end of 2014
 - ▣ Preference is Calendar Year reporting

Baseline – Documentation Process

■ Two Options:

- If you currently track electricity using Portfolio Manager (or other tool), then generate a report:
 - Make sure report includes all buildings and is consistent with the building stock you want to submit as baseline.
- If you don't currently track electricity, or its easier than generating a report, input electricity data to MEA provided excel document (See MSEC website):
 - Building name and street address
 - Building age and size (gross square feet)
 - 12 consecutive months of electricity bills
 - Amount of electricity provided by renewable sources

Name of Local Government:

Example Town

Baseline Year:

2012

Building Type	Building Size	Electricity: Conventional	Electricity: Renewable Energy	Total kWh	Electricity Intensity
	Square Feet	kWh	kWh		Total kWh/sq-ft
Town Hall	7,500	450,000	0	450,000	60.00
Police Station	10,000	650,000	0	650,000	65.00
Elementary School	7,500	400,000	10,000	410,000	54.67
Senior Center	5,000	400,000	0	400,000	80.00
Subtotal for Buildings	30,000	1,900,000	10,000	1,910,000	63.67
Water Treatment Plant	7,500	650,000	20,000	670,000	89.33
Waste-Water Treatment	10,000	950,000	20,000	970,000	97.00
Pumping in Aggregate	2,500	1,450,000	0	1,450,000	580.00
Total	50,000	4,950,000	50,000	5,000,000	100.00

Policy Structure

- The policy is to establish the **goal**
- The policy must include a minimum of a 15% reduction electricity consumption per sq-ft for municipal buildings within 5 years.
 - The goal may be more aggressive
- It is up to communities to determine which form of legislation is most suitable. Acceptable legislation includes:
 - Ordinances
 - Resolutions
 - Executive Orders
 - Others (please discuss with MEA)

Energy Reduction Plan - Overview

- An ERP will provide a realistic path for implementation of energy-saving improvements.
- At a minimum, the ERP is expected to include:
 1. Letters from the local government verifying adoption of ERP
 2. Executive Summary with community characteristics, summary of energy uses (baseline), and plans for reduction
 3. Detailed electricity reduction plan with identification of energy conservation measures sufficient to reach goal
 4. List of resources (websites, tools, etc.) used

Energy Reduction Plan - Tips

- ERP Basic Tips:
 - The 5 year time period begins the year following the baseline year, not the year following designation as a Smart Energy Community.
 - Since energy efficiency is measured on a per sq. ft. basis, be sure to anticipate physical growth. New buildings are expected to be incorporated into your ERP.
 - The backbone of your community's ERP will be energy conservation measures identified through energy audits.

Energy Reduction Plan - Audits

Audits ensure energy efficiency investments deliver results

- Although communities are not required to perform energy audits, it is highly encouraged to use results from previous energy audits and/or complete additional audits as necessary to develop a more detailed ERP.
- Energy audits assess the energy performance of building components including the envelope, HVAC, and lighting. Energy audits identify underperforming building features and help prioritize investments.
- To do:
 - Collect and review all recent energy audit documentation
 - Stay tuned for an energy audit webinar, technical resources, and tips from MEA/EFC

ERP – Documenting EE Measures

- Download “Planned Electricity Conservation Projects.” MS Excel file available at MSEC website.
- The following information should be included:
 - Energy conservation measure
 - Status/planned installation date
 - Projected annual electricity savings
 - Total installed cost
 - Utility incentives
 - Funding source (SEC grant or other)
 - Source for projected savings

Electricity conservation measures

- ▣ Eligible electricity conservation measures include:
 - ▣ Lighting retrofit
 - ▣ Lighting sensors
 - ▣ Insulation
 - ▣ New HVAC system
 - ▣ Upgrade of high service pumps
 - ▣ Many others...

Grant Funding Rules of Thumb

GENERAL RULES OF THUMB

- MEA will only pay for projects that have a payback that is less than the useful life of the equipment.
 - If the project does not have a payback that is less than the useful life, MEA will only pay an incremental cost calculated based on useful life.
- Energy efficiency projects must focus on energy efficiency, rather than deferred maintenance.
 - For example, while a new roof may lower utility costs, replacing a roof is not the most cost-effective way to save energy.
- Windows/doors often trigger historic preservation review; also funding cannot be used to replace windows/doors unless specifically recommended in an energy audit.

Procurement

- Communities are encouraged to begin thinking about the procurement process now for both energy audits and implementation of electricity conservation measures.
- Questions to consider:
 - Will an RFP be necessary?
 - Are there utility rebates available?
 - How long did it take last time we completed an energy efficiency project? (Projects must be installed and invoiced by May 2014)
- More procurement resources from MEA/EFC to come.

Financing ERPs

- Communities may access 20% of the SEC grant funding upon signing the grant agreement, but before completing the deliverables. This funding can be used to assist in passing policies and developing ERPs.
- Other webinars and resources for financing ERPs for the long-term will be offered throughout the year, including coverage of:
 - Energy Performance Contracts
 - Loans, bonds, and other financing tools

Implementing ERPs

- Designate responsibilities and communicate with both MEA/EFC and other Smart Energy Communities.
- Communities are expected to report their progress annually to MEA, which is an opportunity for additional assistance.
- Participants must show that they are making a good-faith effort to achieve the electricity consumption reduction goal.

Final Remarks

- Three deliverables by December 31, 2013. Make sure your timetable includes all three:
 - Baseline
 - Policy Adopted
 - Energy Reduction Plan
- Upcoming webinars:
 - May 13th: Renewable Energy Guidelines
 - May, 16th: Trans Petroleum Reduction Guidelines
 - May 29th: Low/Moderate Income Grant Guidelines
 - TBD: Energy Audits 101, Procurement, Financing

Contact Information

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energy.maryland.gov/Govt/SmartEnergyCommunities

Thank you for attending!